

FIG. 1

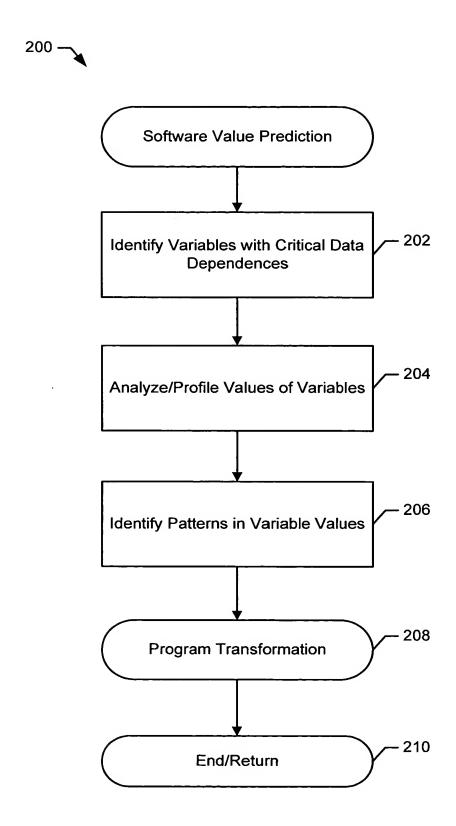


FIG. 2

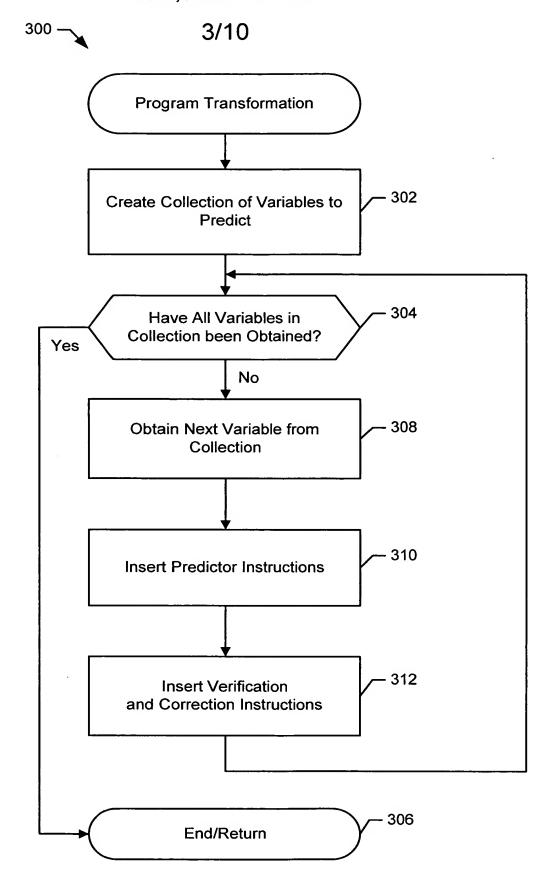


FIG. 3

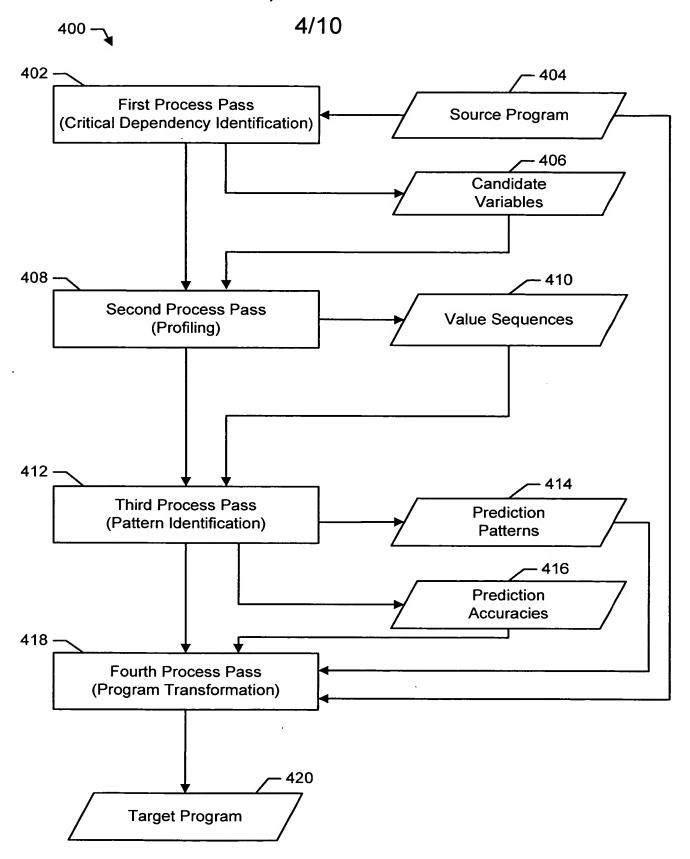


FIG. 4

Title: "Methods and Apparatus for Software Value Prediction" Inventor: Xiao Feng Li, et al. Attorney Docket No. INTEL/17590

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502: foo(x); 504: S1; 506: x = bar(); 508: S2; 510: S3; 512: tar(x); 514: S4;

```
600 —
602: pred_x = pred();
604: tar(pred_x);
502: foo(x);
504: S1;
506: x = bar();
508: S2;
510: S3;
606: if(x!=pred_x)
608: recover_tar(x);
514: S4;
```

```
702: L: S1;
704: fork( L );
706: S2;
708: foo( x );
710: S3;
712: x = bar( );
714: S4;
716: if (cont) goto L;
```

FIG. 7

800 —

```
802:
             pred_x = x;
             S1;
702:
804:
             x = pred_x;
806:
             pred_x = pred( );
704:
             fork(\(\bar{L}\);
S2;
706:
             foo(x);
S3;
708:
710:
712:
             x = bar();
714:
              S4;
808:
              if (x != pred_x)
810:
              pred_x = x;
if (cont) goto L;
716:
```

900 —

```
901: Main Thread:
902:
            <del>S1</del>;
904:
            fork( L );
S2;
                                ▶ 903: Speculative Thread:
                                   908:
906:
                                                S1;
910:
            foo(x);
                                   912:
                                               fork(L);
914:
            S3;
                                   916:
                                                S2;
918:
            x = bar();
                                   920:
                                               foo(x);
            S4;
                                                S3;
922:
                                   924:
            if (cont) goto L;
926:
                                   928:
                                               x = bar();
                                                S4;
                                   930:
                                   932:
                                               if (cont) goto L;
```

1000 —,

```
1001: Main Thread:
1002:
             pred x = x;
1004:
             S1;
1006:
             x = pred_x;
             pred_x = pred( );
1008:
1010:
                                 1009: Speculative Thread:
             fork(L);
1012:
             S2;
                                               S1;
                                  1014:
1016:
             foo(x);
                                  1018:
                                               x = pred x;
             S3;
1020:
                                               pred_x = pred( );
                                  1022:
1024:
             x = bar();
                                  1026:
                                               fork( L );
                                               S2;
1028:
             S4:
                                  1030:
              if (x != pred_x)
                                               foo(x);
1032:
                                  1034:
                                               S3;
1036:
                                  1038:
                   pred x = x;
1040:
              if (cont) goto L;
                                  1042:
                                               x = bar();
                                  1044:
                                               S4:
                                  1046:
                                               if (x != pred x)
                                                     pred_x = x;
                                 1048:
                                 1050:
                                               if (cont) goto L;
```

FIG. 10